



Safety Data Sheet

1. Supplier and Manufacturer

Aufhauser Corporation
39 West Mall
Plainview NY 11803 USA
Telephone: 516-694-8696 www.brazing.com
Emergency Phone Number: 516-694-8696 or 212-246-0205
24-hour Emergency Response: 212-246-9420 or 911
SDS Number: Flux ALBraze 202304
Product Codes: **AluminumBraze Flux 177-427°C**
Product Use(s): Flux for metal brazing



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2. Hazards identification

Classification(s)

GHS Classified: Acute Tox. 4: (Oral) H302, (Inhale) H332; Skin Irrit 2: H315; Eye Irrit 2A: H319; STOT SE 3: H335; Aquatic Acute 3: H402

GHS Label Symbol(s): Health Hazard, Exclamation Point, Environment



GHS Label Signal Word(s): Danger

GHS Label Hazard Statement(s): Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Harmful to aquatic life.

GHS Label Precautionary Statement(s): Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wear protective gloves, protective clothing, and eye/face protection. Wash hands thoroughly after handling. Store locked up. Do not eat, drink, or smoke when using this product. If exposed or concerned, get medical advice or attention. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Call a doctor or Poison Control Center if you feel unwell. IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if easy to do. Continue rinsing. Immediately call a doctor or Poison Control Center. Dispose of contents/container in accordance with local/ regional/ national/ international regulations.

3. Composition/information on ingredients

Ingredient	CAS #	% ww	GHS note
Lithium chloride	7447-41-8	< 25	Acute Tox. 4 (Oral): H302; Skin Irrit. 2: H315; Eye Irrit. 2A: H319; STOT SE 3: H335; Aquatic Acute Tox 3: H402
Zinc fluoride	7783-49-5	< 5	Skin Irrit. 2: H315; Eye Irrit. 1: H318; STOT SE 3: H335
Potassium fluoroaluminate	14484-69-6	< 4	Acute Tox. 4 (Inhale): H332; Eye Irrit. 2A: H319; Repro Tox. Lactation Effects: H362; STOT RE 1: H372
Zinc chloride	7646-85-7	1 - 95	Acute Tox. 4 (Oral): H302; Skin Corr. 1B: H314; STOT SE 3: H335; Aquatic Acute 1: H400; Aquatic Chronic 1: H410

4. First aid measures

Eyes: Flush affected areas with water for at least fifteen minutes. Remove contact lenses if present and easy to do. Seek medical attention/ contact poison control center immediately.

Skin: Remove contaminated clothing. Wash affected area with large quantities of water. Chemical burns must be treated by a physician. Seek medical attention. Launder or dry-clean clothing before reuse.

Ingestion: Seek immediate medical assistance. Rinse mouth. Do not induce vomiting unless explicitly instructed by medical personnel. Do not give anything by mouth to an unconscious or convulsive person.

Inhalation: If signs and symptoms of toxicity are observed, remove subject from area to fresh air, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

5. Firefighting measures

Suitable extinguishing media: Use media appropriate for surrounding materials. Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media: Do not use water jet as an extinguisher; water jetting will spread fire. No water on molten metal.

Special PPE and equipment for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions: Use water spray to cool unopened containers. Remove containers from fire area if possible.

Specific methods: Use standard firefighting procedures and consider other hazardous materials involved.

General fire hazards: No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal Precautions: Keep unnecessary personnel away. Avoid inhalation of dust from spilled material. Avoid contact with skin, eyes, and mucous membranes. Wear appropriate protective equipment (e.g., gloves, chemical goggles) during cleanup. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and Materials: Isolate spilled product and transfer to impervious containers. Avoid generation of dust during clean-up. Sweep large spills or wipe-up small spills. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Do not reuse reclaimed spilled material.

Environmental Precautions: Prevent spills from entering sewers or contaminating soil.

7. Handling and storage

Handling Precautions: Do not get this material in direct contact with eyes or skin. Avoid prolonged exposure and inhalation. Provide adequate ventilation. Use protective equipment as needed.

Work and Hygiene Practices: To prevent ingestion following use of the product, wash hands and face before eating, drinking, applying cosmetics, or using tobacco. Remove contaminated clothing or protective equipment before entering eating/drinking areas.

Storage Precautions: Store in a cool, locked location away from incompatible materials (see Section #10).

8. Exposure controls/personal protection.

Ingredients – Exposure Limits

Ingredient	CAS #	ACGIH TLV (mg/m ³)	OSHA PEL (mg/m ³)
Lithium chloride	7447-41-8	not established (ne)	ne
Sodium fluoride	7681-49-4	2.5	2.5
Potassium fluoroaluminate	14484-69-6	ne	2.5
Zinc chloride	7646-85-7	1 (fume)	1

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Eye/Face Protection: Wear eye protection adequate to prevent eye contact with the product and injury from the hazards of product use.

Skin Protection: Wear protective gloves and clothing to prevent skin contact and injuries from the hazards of product use and/or for prolonged contact with the product. Avoid flammable fabrics.

Respiratory Protection: If an exposure level to a component(s) exceeds an applicable standard, use a NIOSH-approved respirator having a configuration (face piece, filter media, assigned protection factor, etc.) effective for the concentration of the component(s) generated. For guidance on selection and use of respirators, consult American National Standard Z88.2 (ANSI, New York, NY 10036, USA).

General hygiene: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and PPE to remove contaminants.

9. Physical and chemical properties

Appearance: powder solid - white/gray, light yellow	Odor: neutral
Odor threshold: n/a	pH: 3 - 5 approx.

Melting point: approx. 515-630 C (959-1166 F)	Freezing point: n/a
Boiling point/boiling range: n/a	Flash Point: n/a
Evaporation Rate (nBuAc = 1): 1.5	Flammability Class: n/a
Lower Explosive Limit: n/a	Upper Explosive Limit: n/a
Vapor pressure: n/a	Vapor density: n/a
Relative density (H2O): n/a	Solubility (H2O): 10 g/L
Oil-water partition coefficient: not determined	Auto ignition Point: n/a
Decomposition temperature: not determined	Viscosity: not determined
Specific gravity @ 20C (water = 1): n/a	Bulk density: 1200 kg/m3 approx.

10. Stability and reactivity

Reactivity: Non-reactive under normal conditions of use, storage and transport. Reacts with water to generate heat.

Stability: stable

Hazardous Polymerization: will not occur

Conditions to avoid: Contact with incompatible materials.

Incompatible Materials: Strong oxidizing agents. Strong acids.

Potential Hazardous Decomposition Products: Hydrogen fluoride. Hydrogen chloride.

11. Toxicological information

Ingredients - Toxicological Data

Zinc chloride	DNA Inhibition System (human, lymphocyte) = 0.360 mmol/L TCLo (inhalation, man) = 4800 mg/m ³ /30 mins; pulmonary effects TCLo (inhalation, human) = 4800 mg/m ³ /3 hrs EPA-D (Not classifiable as to Human Carcinogenicity)
Lithium chloride	LD50 (oral, rat): 526 mg/kg
Potassium fluoroaluminat	LD50 (oral, rat): > 2000 mg/kg LC50 (dermal, rabbit) > 2000 mg/kg

Primary Routes(s) of Entry: Ingestion; inhalation.

Eye Hazards: Causes serious eye damage.

Skin Hazards: Causes skin irritation.

Ingestion Hazards: Harmful if swallowed. Causes digestive tract burns.

Inhalation Hazards: Causes irritation to the respiratory system. Prolonged inhalation may be harmful.

Symptoms Related to Overexposure: Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Chronic Effects: Repeated exposure to fluorides may cause excessive calcification of the bone and calcification of ligaments of the ribs, pelvis and spinal column. Exposure to extremely high levels of fluorides can cause abdominal pain, diarrhea, muscular weakness, and convulsions. In extreme cases it can cause loss of consciousness and death.

Carcinogenicity: The product contains no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

Mutagenicity: Not reported to produce mutagenic effects in humans. Animal mutation data are available for Zinc chloride.

Embryotoxicity: Not reported to cause embryotoxic effects in humans. Animal embryotoxic data are available for Zinc chloride.

Teratogenicity: Not reported to cause teratogenetic effects in humans. Studies on test animals exposed to relatively high doses of Zinc chloride indicate teratogenetic effects.

Reproductive Effects: Not reported to cause reproductive effects in humans. Studies on test animals exposed to relatively high doses of Zinc chloride and Potassium fluoroaluminat indicate reproductive effects.

12. Ecological information

Ecological data for the components is as follows:

Potassium fluoroaluminat	LC50 (fish) > 10 mg/L (Brachydanio rerio) EC50 (other aquatic organisms): 22.8 mg/L (48h - Daphnia magna) ErC50 (aquatic plants): 33.5 mg/L (72h - Pseudokirchneriella subcapitata)
Zinc chloride	LC50 (fish): 0.101 - 0.197 mg/L (96h - Oncorhynchus mykiss) EC50 (crustacea): 0.1511 - 0.2782 mg/L (48h - Crassostrea virginica)
Lithium chloride	LC50 (fish): 17 mg/L (96h - Ptychocheilus licuis) EC50 (other aquatic organisms): 1.2 mg/L (64h - Daphnia magna)

Ecotoxicity: Harmful to aquatic life. May affect acidity (pH) in water. May be harmful to plant and animals depending on quantity and duration of over-exposure.

Persistence and degradability: No data available.
Bioaccumulative potential: No data available.
Mobility in soil: No data available
Other adverse effects: No further information available.

13. Disposal considerations

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/ regional/ national/ international regulations.

Do not discharge waste product into sanitary or storm sewers or allow it to contaminate soil. Consult applicable Federal, State/ Provincial, and local regulations.

14. Transport information

DOT, IATA, IMDG, TDG: Not regulated as dangerous goods.

15. Regulatory information

United States Regulatory Information

All components of this product are listed on the EPA's TSCA inventory.
SARA Hazard Classes: Acute Health Hazard; Chronic Health Hazard
SARA Section 304 (40 CFR Table 302.4) Notification: Zinc chloride.
SARA Section 313 (40 CFR 372.65) Notification: Zinc fluoride, Zinc chloride (as Zinc compound).

Proposition 65 (California):

- Chemicals known to cause cancer: none
- Chemicals known to cause reproductive toxicity for females: none
- Chemicals known to cause reproductive toxicity for males: none
- Chemicals known to cause developmental toxicity: none

Components are listed under various State regulations.

Canadian Regulatory Information

All components of this product are listed on either the Domestic Substances List (DSL) or the Nondomestic Substances List (NDSL).
WHMIS Class(es) and Division(s): D2B

16. Other information including information on preparation and revision of the SDS

<u>NFPA Ratings for Product</u>	<u>HMIS Ratings for Product (Legend)</u>
Health - 3	Health - 3 (serious, chronic hazard)
Flammability - 0	Flammability – 0 (minimal hazard)
Reactivity - 0	Physical Hazard – 0 (minimal hazard)

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Disclaimer

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Aufhauser Corporation